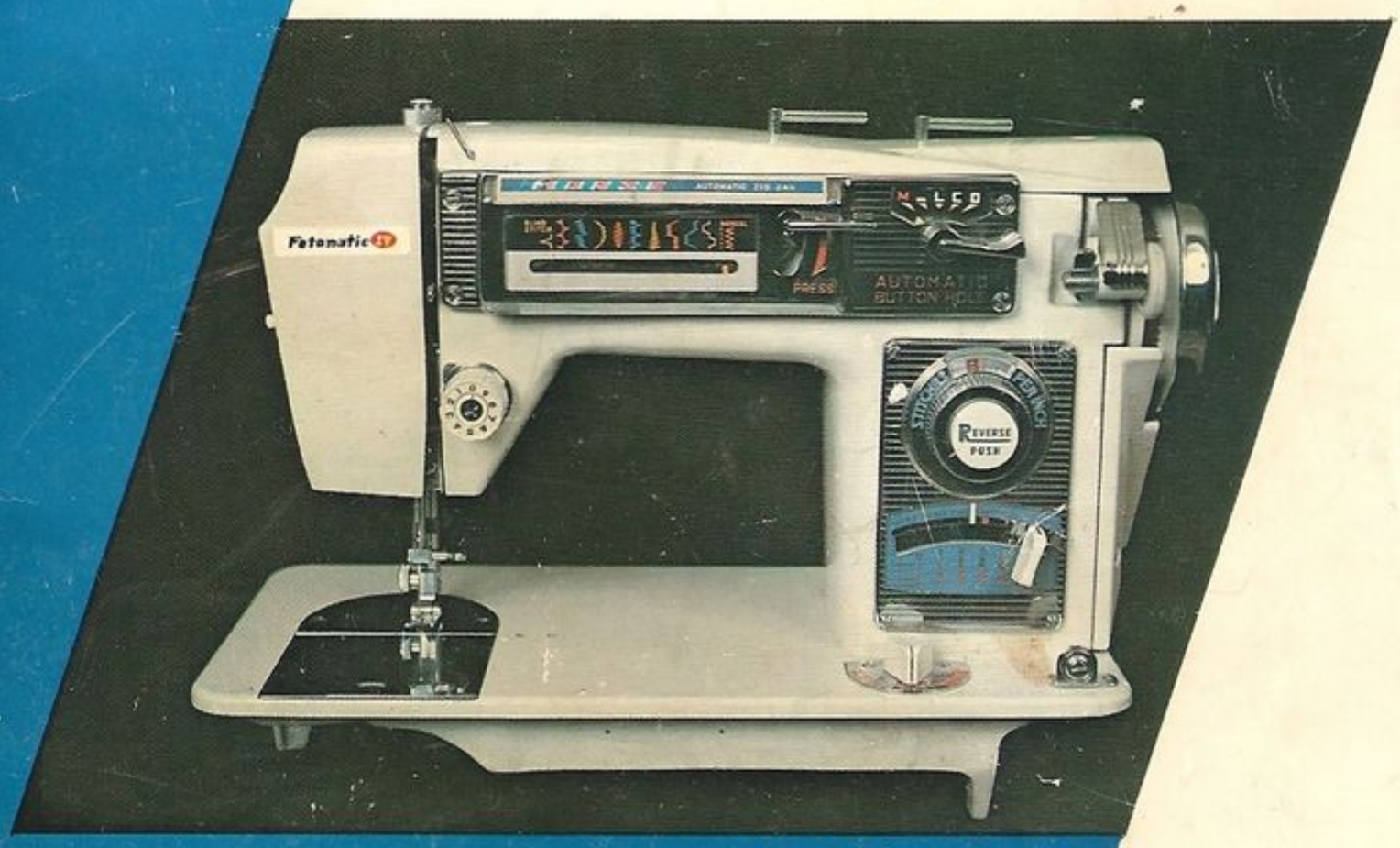
INSTRUCTION MANUAL



FOR THE MORSE FOTOMATIC IV BUILT-IN CAMAUTOMATIC MACHINE MODEL 4400

INTRODUCTION

In 1948, Mr. Philip S. Morse and his associates began to design a new type of zigzag sewing machine, specifically for the American woman, which would combine superb mechanical quality with maximum simplicity of operation. Above all, its operations could be easily understood through the miracle of the FOTOMATIC® system.

The first MORSE FOTOMATIC® was a sensational success with its pictures on a screen of "the stitch you select .., before you start to sew." The FOTOMATIC® IV is a proud new development in this famous line!

A machine of graceful lines and matchless design, the FOTOMATIC IV adds to the already famous MORSE innovations automatic buttonholes, automatic blind stitches, and a wide variety of beautiful, completely automatic design and embroidery patterns in either single or double needle sewing!

The MORSE FOTOMATIC® IV, as were its predecessors in the precision built **MORSE** line, is manufactured at the great, modern **TOYOTA** factory at Nagoya, Japan, one of the world's vital industrial centers. From the molten steel of the foundry to the thermostatically paint and finish rooms, the **TOYOTA** factory is the finest of its kind and the envy of sewing machine manufacturers the world over. All **MORSE** machines are built to the most exacting specifications, and the rigid quality control program which governs their manufacture is such that quality and design of every machine is guaranteed for a lifetime of pleasurable sewing.

Electrical components such as the control, bulb, wiring.....and portable cases, furniture and attachments are made in our affiliated factories in the United States. Complete units are assembled and rechecked at our distribution plants in Los Angeles and New York. Every **MORSE** distributor is thoroughly qualified to render expert factory service.....and all moving or wearing parts such as needles, bobbins, bobbin cases, hooks, etc., are standard and interchangeable with parts immediately available at sewing machine stores the world over.

Please read this illustrate manual carefully. It is your assurance that you will get the most out of your **MORSE**.

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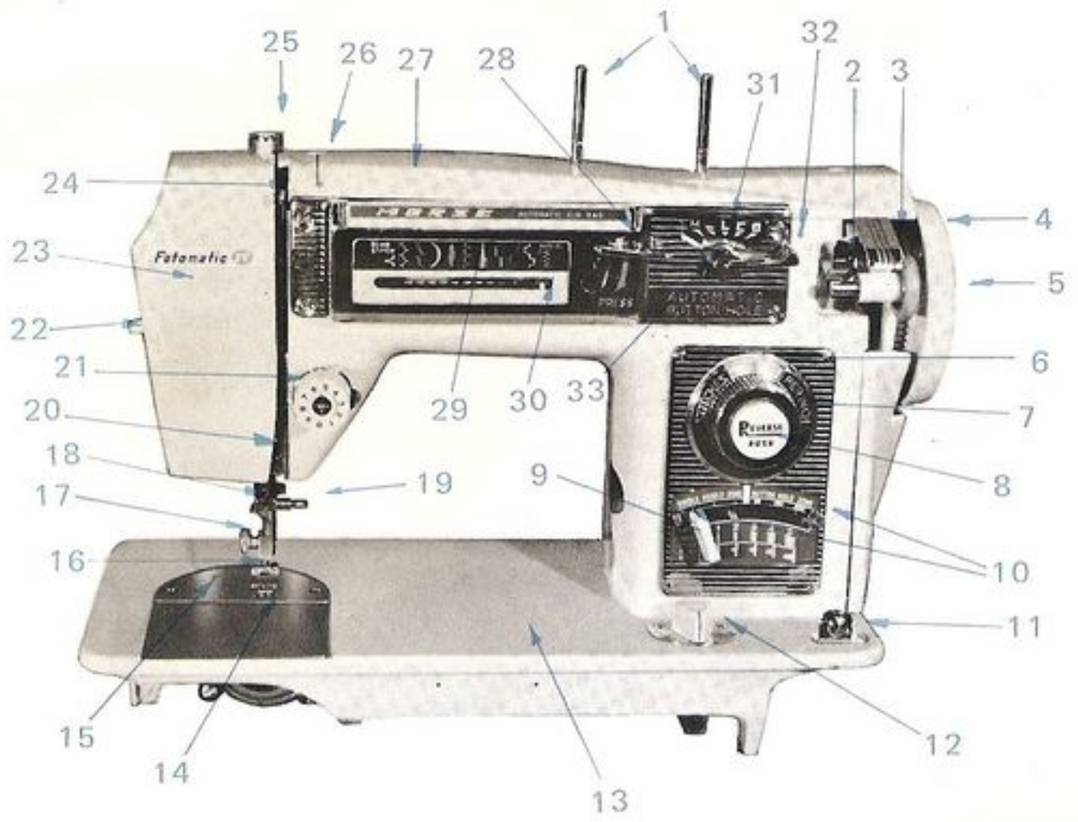


Fig. 1 Feature and Parts you should know
Front View

1. Spool Pins
2. Bobbin Winder Spindle
3. Bobbin Winder Lever
4. Balance Wheel
5. Stop Motion Knob
6. Stitch Length Window
7. Stitch Length Dial
8. Reverse Push-button
9. Zigzag Width Lever
10. Stop Locks
11. Bobbin Winder Thread Guide
12. Fabric Selector
13. Bed
14. Slide Plate
15. Needle Plate
16. Presser Foot
17. Presser Foot Thumb Screw
18. Needle Bar Thread Guide
19. Needle Clamp Screw
20. Lower Face Plate Thread Guide
21. Thread Tension Dial
22. Push-button Light Switch
23. Face Plate
24. Take-up Lever
25. Automatic Darner
26. Upper Arm Thread Guide
27. Top Cover
28. Automatic Design Selector Lever
29. Automatic Design Window
30. Automatic Design Indicator
31. Buttonhole Windowv
32. Buttonhole Lever
33. Buttonhole Indicator

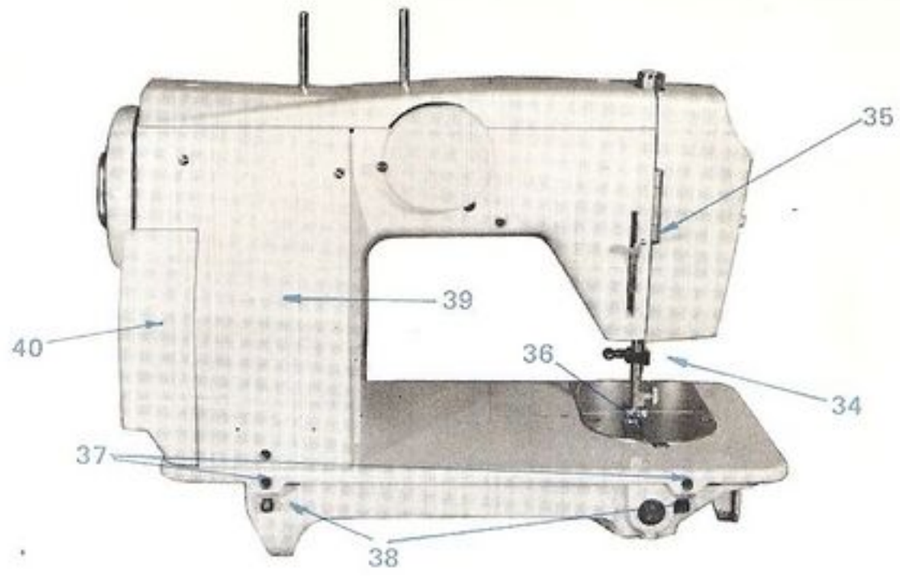


Fig. 2 Features and Parts you should know
Back View

34. Thread Cutter
35. Presser Bar Lifter
36. Feed
37. Hinge Holes
38. Hinge Set Screws
39. Motor Cover (A)
40. Motor Cover (B)

Please read this illustrated manual carefully. It is your assurance that you will get the most out of yours MORSE FOTOMATIC IV.

TO REPLACE THE NEEDLE

The Morse automatic uses standard 15 x 1 needles, available at all sewing machine stores (For correct size, consult chart on Page 7).

To replace the needle, raise the needle bar to its highest point by turning the balance wheel TOWARD YOU by hand. Loosen the needle clamp screw (A) on the right hand side and the needle clamp will open, allowing the old needle to fall out.

Remove the old needle and slide the new needle up (FLAT SIDE FACING TO THE REAR) **as far as it will go.**

When the needle hits the stop it is in position correctly. Now fasten the needle clamp securely. For best results change needles frequently.

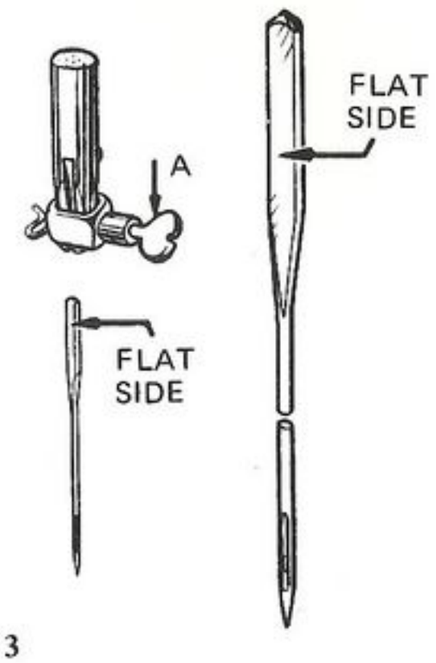


Fig. 3

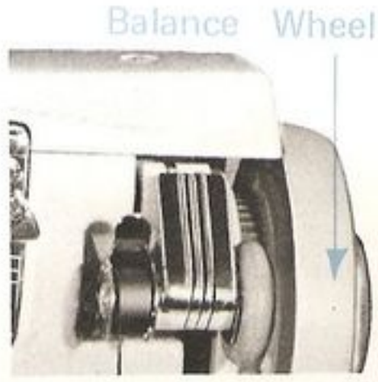


Fig. 4

NEEDLES AND THREAD

Never use a bent needle, nor one with a blunt point, since this causes imperfect stitches and may cause the needle to break. Unless the needle is in CLEAR TO THE STOP, FLAT SIDE FACING TO THE REAR, the machine will be out of "time", and skipped or imperfect stitches will result and needles may break.

The size of needle should conform to the size of the thread and both should be suitable to the material. Use a needle sufficiently large to permit the thread to pass freely through the eye. In general sewing, use the same size thread in the bobbin as is used on top. For detailed information consult chart on Page 7.

The following table will show you the size of needles generally used with various s thread. The size or grade refers to the "eye" of the needle. All sizes are 15 x 1 available wherever needles are sold.

NEEDLE AND THREAD SIZES

Sizes & Grades of Needles	Type of Fabric and Work to be Done	SIZE OF THR	
		Cotton	Silk
11 (Medium-Fine)	Medium light-weight and summertime fabrics. For house dresses, children's dresses, washable cotton dresses, aprons, curtains.	80 to 100	0 Twist
14 (Medium)	Dress silks and cottons, light weight woolens, draperies, fabric furnishings. For general household sewing, fine men's shirts, smocks, window draperies and fabric decorations.	60 to 80	A & B Twist
16 (Light-Heavy)	Heavy cretonne, madras, muslin, brocades and quilts. For mens' work shirts, sturdy smocks and aprons, heavy quilting and fabric furnishings.	40 to 60	C Twist
18 (Medium-Heavy)	Heavy woven coating, light weight canvas, bed ticking, upholstery and awning materials, slip-cover fabrics. For work or sports uniforms, suits made of strong linen or cotton fabrics, awnings, slip covers and mattresses.	30 to 40	D Twist
19 (Heavy)	Heavy woven suiting, coating, duck ticking, drilling, canvas and sacking. For heavy wash uniforms, bedding supplies for hospitals, hotels and camps	10 to 30	E Twist
21 (Extra-Heavy)	For bags, canvas, coarse cloths and heavy goods.	Very Coarse	

When doing embroidery work, finer results will be obtained with machine embr thread regardless of the weight of fabric.

THE BOBBIN CASE

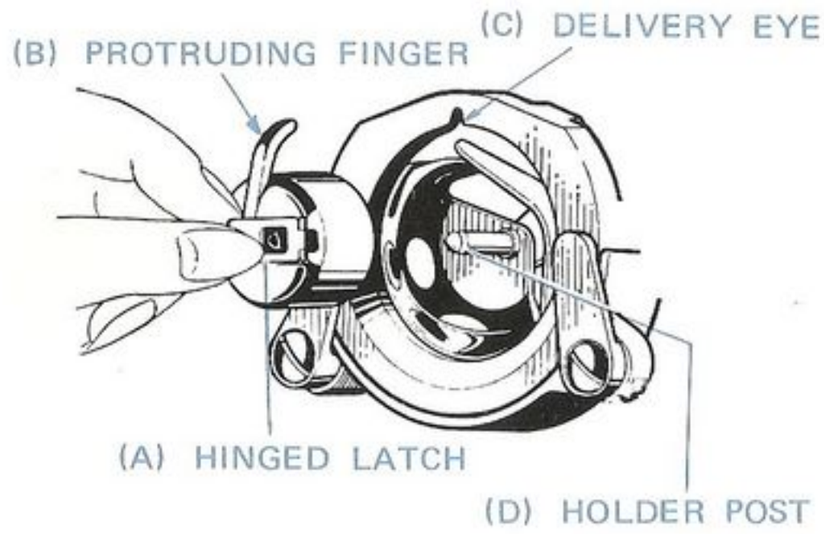


Fig. 5

IMPORTANT: In the following operations the needle must always be ABOVE the surface of the machine. Raise the needle by turning balance wheel TOWARD YOU by hand.

REMOVING THE BOBBIN CASE

Open the slide plate (Fig. 7) by sliding it out. With left thumb and forefinger, open the hinged latch (A) (Fig.5) at the front of the bobbin case and hold securely as you withdraw bobbin case from around the holder post (D). When held in the above manner the bobbin will not fall out of the bobbin case.

INSERTING THE BOBBIN CASE

After winding a fresh bobbin and threading the bobbin case (see Pages 9 and 10), hold the bobbin case latch with left thumb and forefinger, (as explained above) to prevent the bobbin from falling out. Keeping the protruding finger (B) topside toward the delivery eye (C), press the bobbin case around the holder post until the finger enters the delivery eye. When in correct position a stud on the holder post will catch the latch mechanism holding the bobbin case firmly in place. This operation is easy – NEVER FORCE IT. The three or four inches of thread hanging free from the bobbin case will be brought up through the needle plate hole as shown on Page 12.

WINDING THE BOBBIN

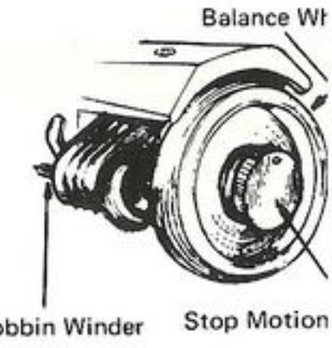


Fig. 6

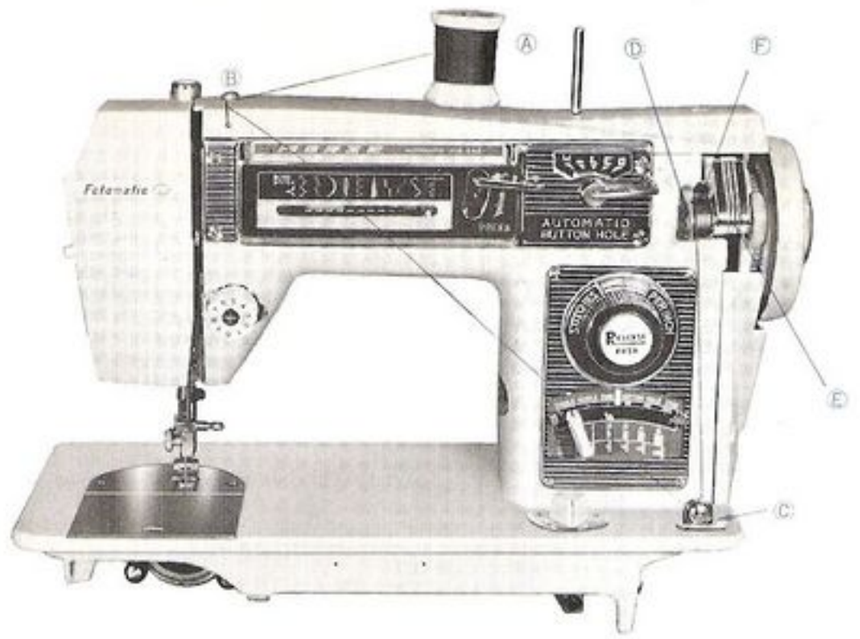


Fig. 7

Note: The MORSE FOTOMATIC IV uses standard 15 class bobbins available at all stores.

Holding the balance wheel firmly with the left hand, loosen the balance wheel by the stop motion knob toward you (Fig. 6). This will permit the balance wheel freely while the needle bar remains motionless. Place a spool of thread on the sp (A). Pass the thread through the upper arm thread guide (B) and the tension disc right corner of the base of the machine. Now wind the end of the thread around an bobbin seven or eight times and place the threaded bobbin on the spindle (D) bobbin winder. Press the bobbin onto the spindle with the left hand, making sure t PIN on the spindle fits into the SLOT in the bobbin. Push the bobbin winder le down until the small rubber wheel presses against the hub of the balance wheel clasp (F) falls between the sides of the bobbin, holding it in position. Turn the wheel toward you by hand and proceed to operate the rheostat control, as in sewing the bobbin is full, it will release automatically and stop turning. Break off the thr detach the bobbin from the spindle. Hold balance wheel firmly with left hand a right hand turn the stop motion knob away from you until the machine is tight needle bar moves with the turning of the balance wheel.

TO THREAD THE BOBBIN CASE

Hold the bobbin case between the left thumb and forefinger with the slot up. With 5 or 6 inches of thread trailing in the palm, hold the bobbin between the thumb and first two fingers of the right hand. Fig. 8

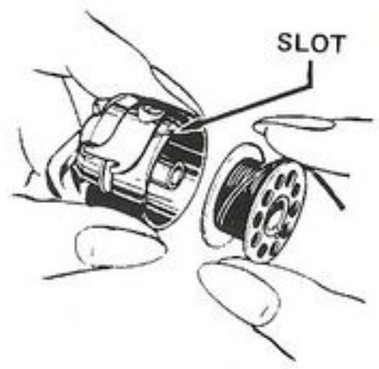


Fig. 8

Insert the bobbin into the bobbin case and pull the trailing thread into the slot, down and to the left until it enters the delivery eye under the tension spring. Fig. 9

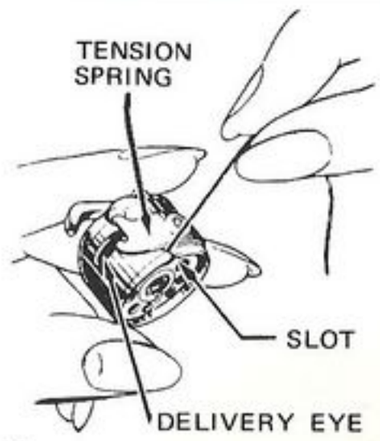


Fig. 9

There should be a slight tension on the thread as it is pulled through the delivery eye and the bobbin should unwind freely. The tension may be increased by turning the tension screw to the RIGHT and decreased by turning the screw to the LEFT. Fig. 10

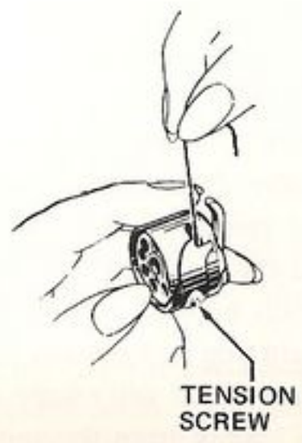


Fig. 10

THREADING THE MACHINE

1. Place a spool of thread on spool pin (A).
2. Lead thread through thread guide (B).
3. Pull the thread down and back UP through the tension discs (C) from right to left.
4. With the right thumb and forefinger hold the thread at a point between A and B. With the left hand pull the thread UP under the check spring (E) until it pulls back into the horn (D). The thread will now come over the metal horn, down and under the check spring.

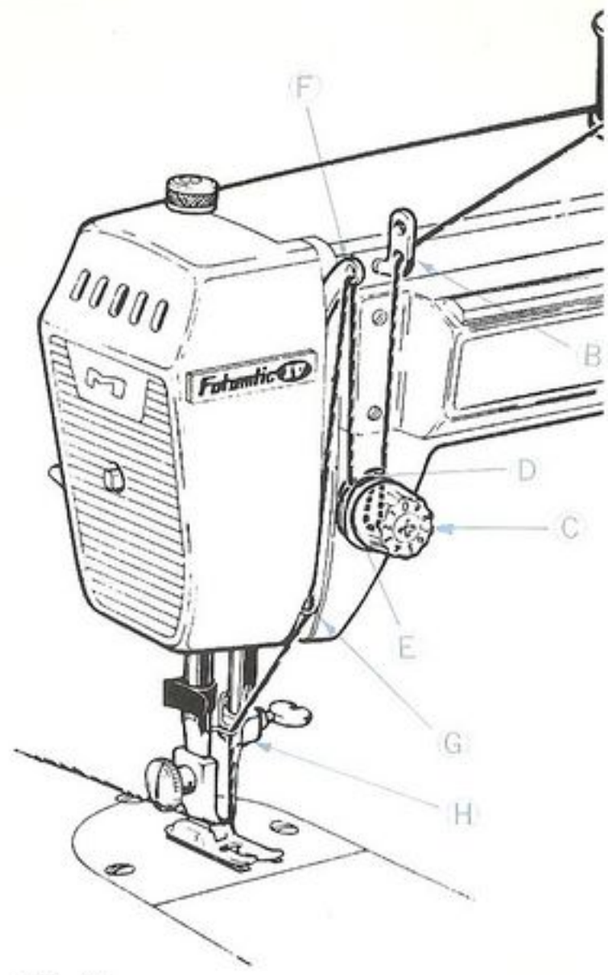


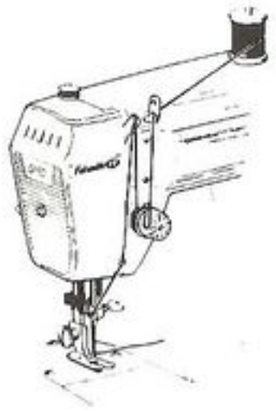
Fig. 11

5. Take the thread up, running the end through the eye of the take-up lever (F) fro to left.
6. Now run the thread down through thread guide (G) and through needle bar guide (H).
7. Run the end of the thread through the eye of the needle FROM FRONT TO drawing through about six inches.

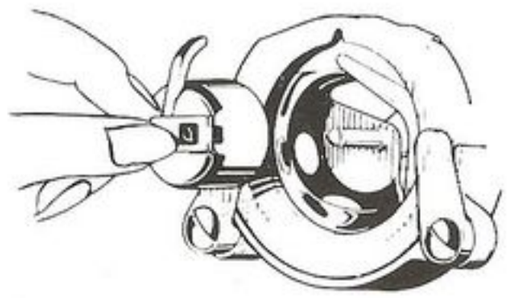
DOUBLE NEEDLE THREADING

1. Use one spool pin for each spool of thread.
2. Thread threads separately through thread guide (B).
3. Each thread is passed between its own pair of tension discs (C).
4. Follow the above procedure until you reach the double needle and thread with separate threads.

TO PREPARE FOR SEWING



a. Thread the machine as shown on Page 11.



b. Insert full bobbin as shown on Page 8.

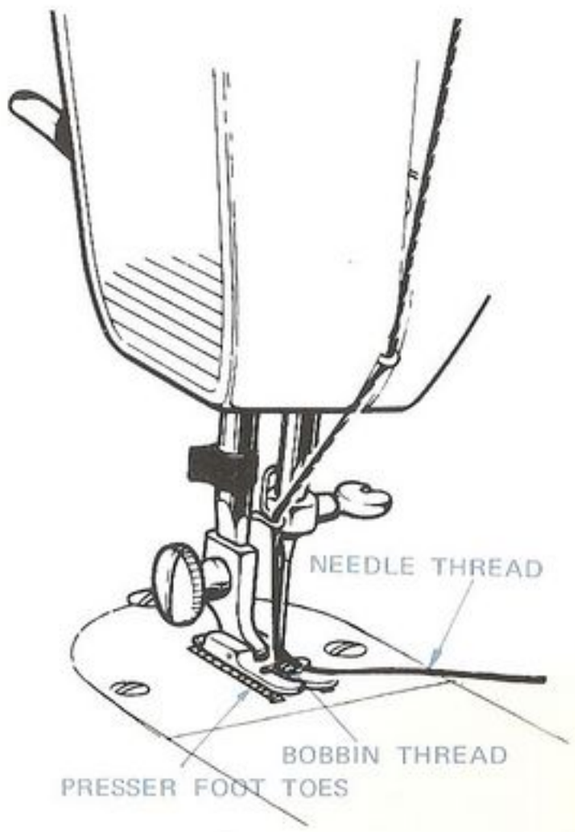


Fig. 12

c. PICK UP BOBBIN THREAD AS FOLLOWS:
Holding the loose end of the needle thread in your left hand, turn the balance wheel toward you by hand until the needle moves down and up again to its highest point. Pull the needle thread gently and the bobbin thread will come up with it through the needle hole (Fig. 12). If the bobbin thread does not rise, check to see if at least 3 or 4 inches of bobbin thread is hanging loosely from the bobbin case.
THEN PLACE BOTH ENDS OF THE THREAD BACK BETWEEN THE TWO PRESSER FOOT TOES (Fig. 12).

TO START SEWING

With the needle raised and the threads drawn back, at least 4 inches through the toes of the presser foot, place the material to be sewn beneath the presser foot, and lower the presser foot lever as far as it will go. Insert needle into material by turning the balance wheel **TOWARD YOU** from top down, by hand. Regulate stitch to desired size. (see Page 14) and start sewing.
Do not try to help the feeding of the work by pulling the material, as this may bend the needle and cause it to blunt or break. As the machine feeds without any assistance, it is sufficient merely to guide the fabric gently, by hand in the direction you want it to be sewn.

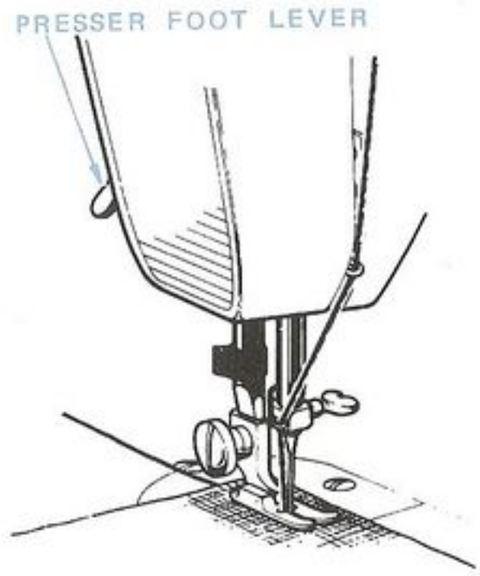


Fig. 13

TO REMOVE THE WORK

Stop the machine by releasing the pressure on the rheostat control and stop balance wheel with the right hand. Raise the needle to its highest point and presser foot by lifting the presser foot lever with either hand. Now draw the sew back and to the LEFT about eight inches and break or cut the trailing threads.
Note: When the presser bar is lifted, the upper thread tension is automatically rel

TO REGULATE THE LENGTH OF STITCH

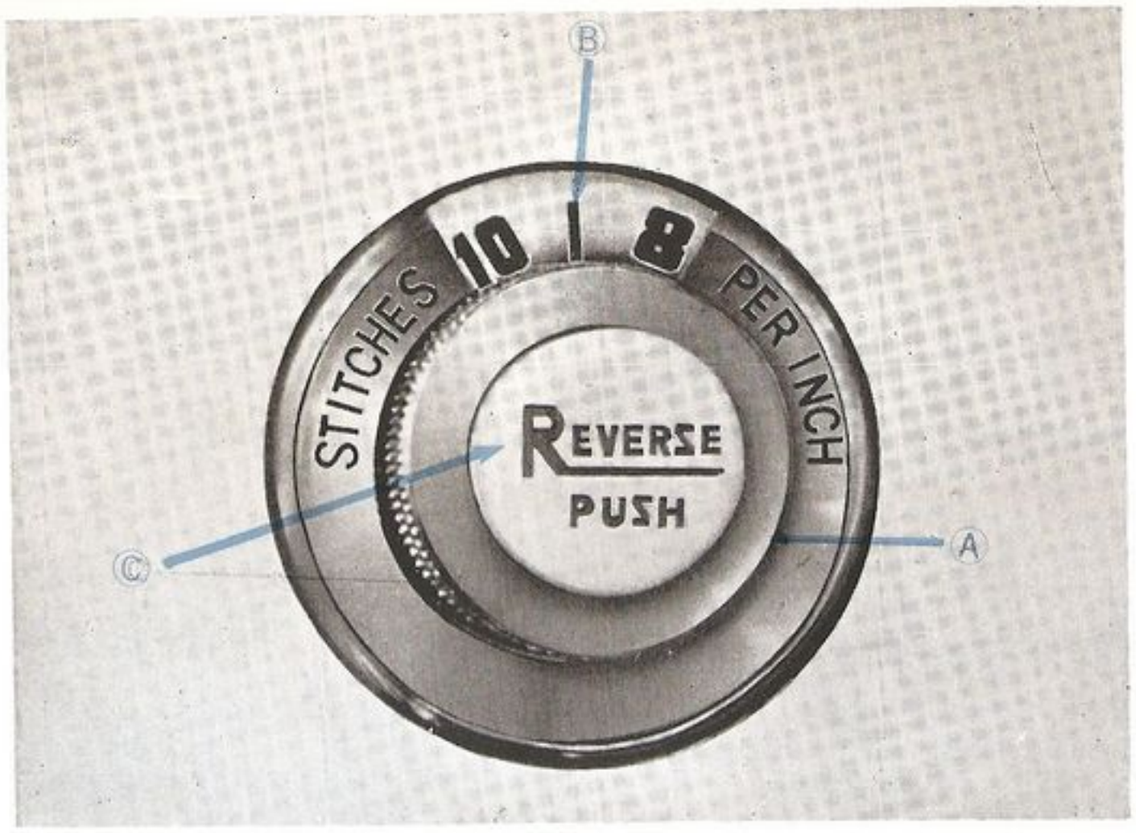


Fig. 14

The new MORSE push-button forward reverse mechanism makes it possible to get precise, even length stitches with a simple twist of the dial (A). Besides this, you always see the stitch ..... **before you sew.** The red indicating line across window (B) shows the number of stitches per inch you have selected. The lower numbers are longer stitches; the higher numbers are smaller stitches.

As you turn dial (A) clockwise, toward the smaller stitches, a picture appears showing the satin stitch for zigzag sewing, as in buttonholes, design patterns, etc.

Note: We recommend testing your stitch on a sample of the material to be sewn since the stitch length varies with different materials.

TO SEW IN REVERSE just press the reverse button (C) in as far as it will go. Continue to press reverse button as long as you wish to sew in reverse. When released, the machine will automatically return to forward stitching. The forward and reverse stitches will be of equal length.

For heavy sewing as well as pattern making, a larger stitch is recommended. For fine work, silk or nylon, smaller stitches are best.

NOTE: **Use machine in zero position only when sewing button, hooks etc.**

TENSIONS

For perfect stitching, the tension on the upper and under threads should be equal, and just sufficiently strong to lock both threads in the center of the work (Fig. 15).

Fig. 15

If the tension on the needle thread is too tight, or if that on the bobbin thread is too loose, the needle thread will lie straight along the upper surface of the material, making an imperfect stitch (Fig. 16).

Fig. 16

If the tension of the bobbin thread is too tight, or if that on the needle thread is too loose, the bobbin thread will lie straight along the under side of the material, making an imperfect stitch (Fig. 17).

Fig. 17

ALWAYS BE SURE THAT YOUR STITCHES LOOK LIKE FIG. 15.

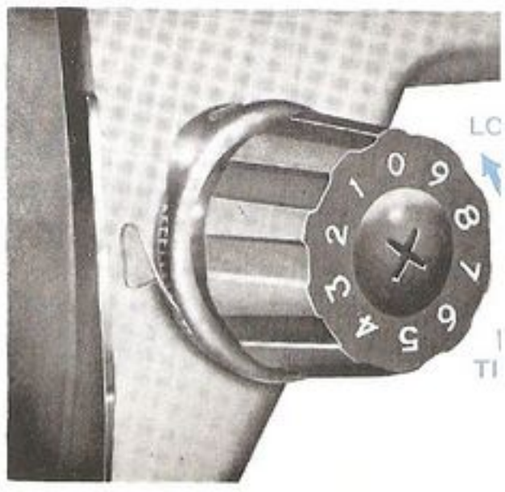


Fig. 18

REGULATING THE NEEDLE TENSION

A correct stitch can usually be obtained by varying the tension on the needle threa

To increase the tension, turn the thumb nut clockwise, **to lessen the tension,** nut to the opposite direction. The thumb nut should not be turned abruptly, but little by little, until the desired tension is obtained. All adjustments must be ma the **presser foot is down** since an automatic release does not permit adjustments to while the presser foot is up.

Ordinarily, a perfect stitch can be obtained by varying the tension on the **need** only. However, it is sometimes necessary to adjust the bobbin thread. For inforr to increasing or decreasing the bobbin thread tension, see Page 10, Fig. 10.

The MORSE FOTOMATIC **IV** is correctly adjusted before leaving the factory and and readjusted before the dealer delivers it to you.

A careful regulation of the tensions on the MORSE FOTOMATIC **IV** will assure y finest seams that mechanical design will produce.

PRINCIPLES OF THE FOTOMATIC IV SYSTEM

THE MORSE FOTOMATIC IV ZIGZAG CONTROL SYSTEM is the most advanced and yet the simplest ever devised for home sewing. The controls are designed so that you always have a picture of the stitch the machine will make.....before you begin to sew.

AUTOMATIC DESIGN SELECTOR LEVER permits you to select MANUAL sewing (for most normal operations or buttonhole making) or any one of nine built- in cams which automatically produces one of the designs shown in the window to the right. As you press the selector lever down there will be a definite "click" as the machine changes its cam.

THE AUTOMATIC DESIGN WINDOW indicates the operation dialed by the operator. The yellow indicator in the narrow window moves from right to left with each "click". The machine will produce the design above the indicator. The last cam is for blind hemming. One more "click" and the machine returns to MANUAL.

THE BUTTONHOLE LEVER is used ONLY when making automatic buttonholes. (see page 20) and moves the indicator in the BUTTONHOLE WINDOW above. The buttonhole indicator should always be on "M", except in the buttonhole operation.

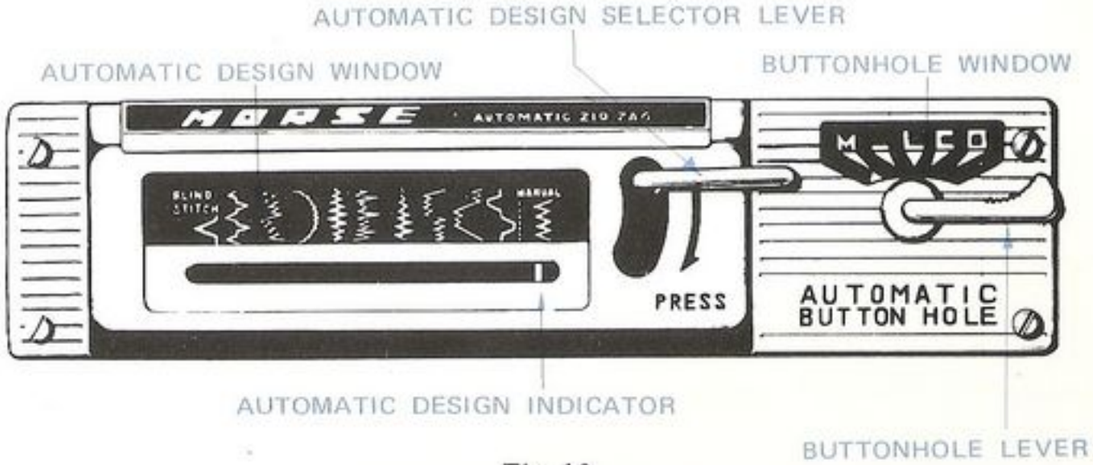


Fig. 19

REGULATING THE WIDTH OF STITCH:

The position of the zigzag lever (Fig. 20, A) determines whether the machine will r straight or zigzag stitch. A picture of the stitch is etched on the panel (D) below the You will note that the lever is on a spring and returns automatically to the "O" or s stitch position. As you move the lever to the right, the machine makes a zigzag st wide as the picture below it.

TO LOCK ZIGZAG STITCH:

The lock (B) controls the minimum width. Depress lock and move it and zigzag leve the right edge is opposite the picture of the desired width. When lock is released, hold lever in position.

Lock (C) contorls the maximum width. Depress lock and move to left until max width is reached. The zigzag lever cannot now be moved beyond this point. These are used primarily for design patterns. For most operations, they should be returned far right and far left, as shown in fig. 20.

Note: The purpose of the etchings DOUBLE NEEDLE ZONE, BUTTONHOLE Z and BLIND STITCH are explained under their operation.
For straight or regular zigzag stitching, make certain to set the automatic indicator and the buttonhole indicator to "M" positions.

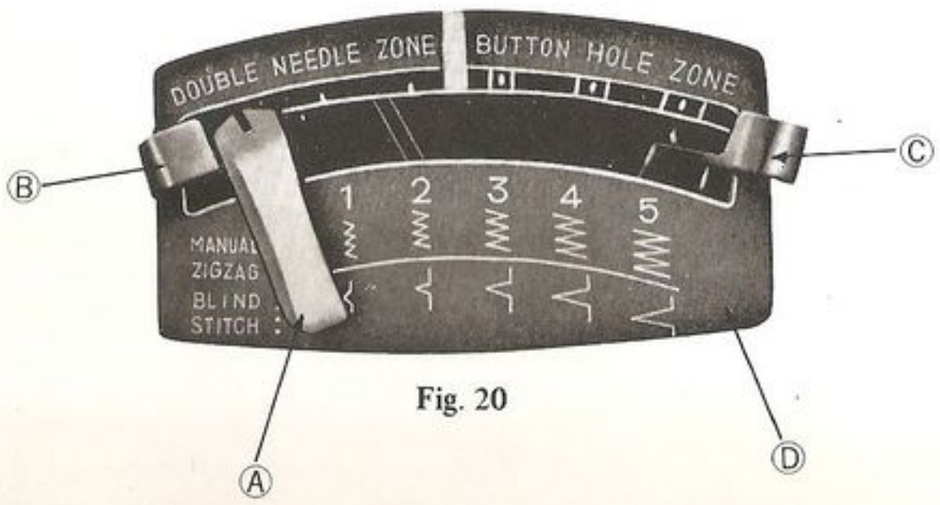


Fig. 20

AUTOMATIC BUTTONHOLES

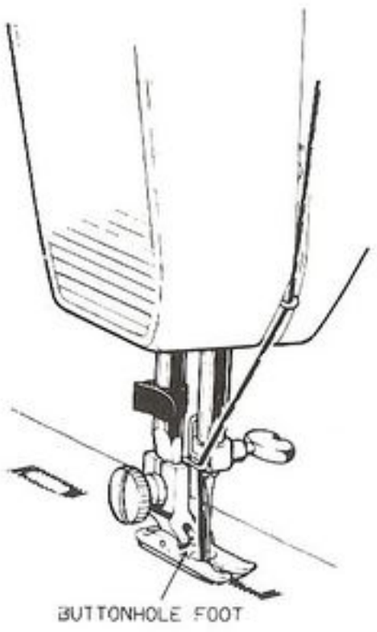


Fig. 21

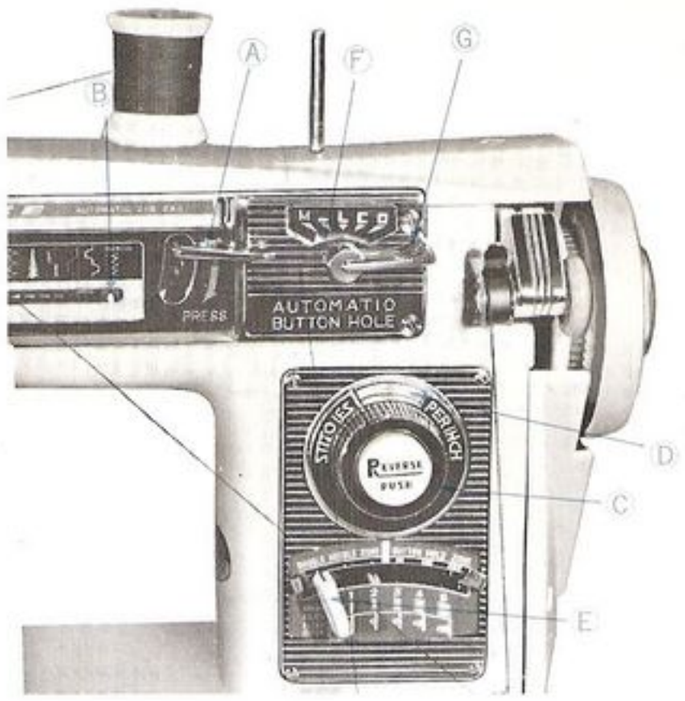


Fig. 22

Note: For best results make sample on swatch of material to be sewn. With some materials, tighten upper tension slightly.

PREPARATION FOR BUTTONHOLE SEWING (See Fig. 22)

1. Using pencil or tailor's chalk, mark length of buttonholes by adding 1/4" to size of button.
2. Press down automatic design selector lever (A) until yellow indicator (B) is in "MANUAL" position (IMPORTANT).
3. Turn stitch length dial (C) until picture appears in window (D).
4. Set and lock zigzag lever (E) in BUTTONHOLE ZONE. At position 3, you will have buttonhole with narrow sides. The sides widen, as indicated, as lever is moved toward position 5.
5. Place material under buttonhole foot so that the lower bar of buttonhole is directly under the needle.

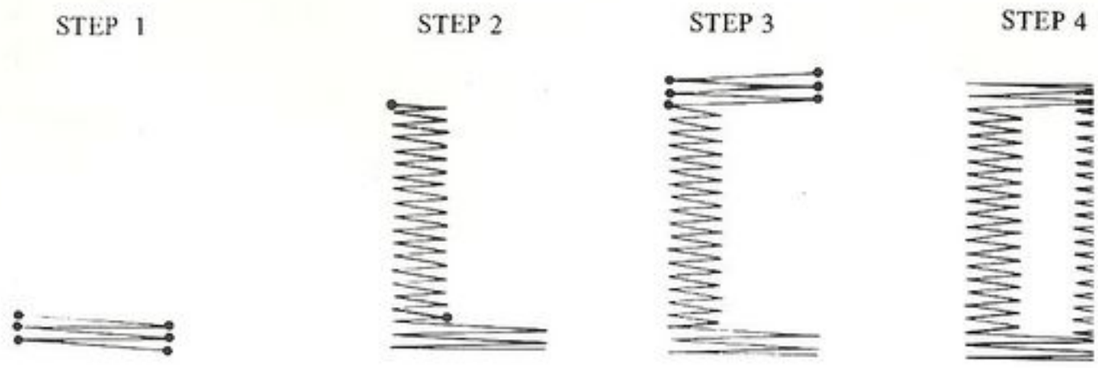


Fig. 23

PROCEDURES OF MAKING BUTTONHOLES (See Figs. 22 and 23)

1. Set buttonhole indicator (F) to the symbol ▬ by pressing down buttonhole le and start machine slowly. After 5 or 6 stitches, the lower bar will be complete 23, Step 1).
2. After completing the lower bar, set buttonhole indicator to the symbol L, tl machine will begin to make the left side. Continue stitching until the top of the buttonhole is reached (Fig. 23, Step 2).
3. Press lever (G) to set buttonhole indicator to the symbol ⌐ and make the up by sewing 5 or 6 stitches (Fig. 23, step 3).
4. Finally, set buttonhole indicator to the symbol ▯ so that the machine mak side automatically (Fig. 23, Step 4).
5. When the lower bead is reached, stop the machine by grasping balance wheel wi hand.
6. Remove the completed buttonhole from the machine and cut thread with sear provided.

Note: 1. The buttonhole window now shows the symbol ▯. Press buttonhol once until the buttonhole indicator gets to the symbol "M" for Manual or twice to ▬ to begin new buttonhole.

2. When making buttonholes in very thin material, it is advisable to place of newspaper or any other thin paper underneath the material. This wi your work from gathering.

AUTOMATIC BLINDSTITCHING

By folding the material and adjusting your machine as outlined below, you can sew hems which are practically invisible. No other attachments or accessories are required.

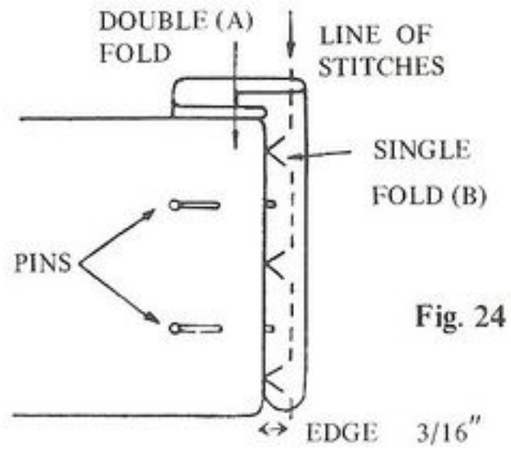


Fig. 24

1. Prepare and baste hem and, if desired, attach seam binding the same way as for hand hemming and turn garment inside out.
2. Fold over hem again so that the RIGHT sides of the material are facing each other.
   Allow edge of hem or seam binding to extend about 3/16" beyond edge of folded back portion. Hold in place with pins inserted across folds (see Fig. 24).
3. Set YELLOW INDICATOR (Fig. 25, A) to the symbol ⦃ (Fig. 25, B) by pressing down AUTOMATIC DESIGN SELECTOR LEVER (Fig. 22, A)
4. Adjust stitch length to from 8 to 15 stitches per inch. Set for fewer stitches if material is very sheer.
5. Set ZIGZAG WIDTH LEVER (Fig. 20, E) opposite blind stitch etching desired. Use smaller blind stitch for lighter materials, wider stitch for heavy materials.
6. Place material under presser foot so that straight stitching is in the single fold (B) (Fig. 24). Every sixth stitch, the machine will automatically make one zigzag stitch to the left. This stitch should barely catch the double fold (A) so as to make blind hem on opposite, or RIGHT, side as invisible as possible.

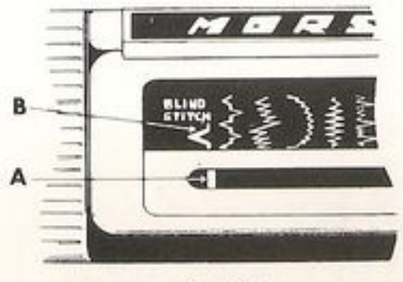


Fig. 25

AUTOMATIC DESIGN SEWING

The MORSE FOTOMATIC IV automatically sews a wide variety of beautiful decora and embroidery designs with either a single or double needle. A few samples are show Fig. 26 and variations of these can be obtained by changing either the width or le settings.

TO MAKE AUTOMATIC DESIGNS:

1. Select automatic design desired by pressing selector lever (Fig. 22A) until ye indicator is opposite the desired picture.
2. Set stitch regulator knob (see page 14) for desired length. In general, the satin st produced by settings in the ▥ area will make the most attractive designs.
3. Set zigzag width lever (Fig. 22E) for the desired width. Again, the most dram designs will be produced with the widest possible stitch.
4. Be certain that the Buttonhole Indicator (Fig. 22 F) is on the symbol "M", B sewing.
5. In using the double needle, be careful to set the width lever within the DOU NEEDLE ZONE. If the width is too wide, you may break a needle.

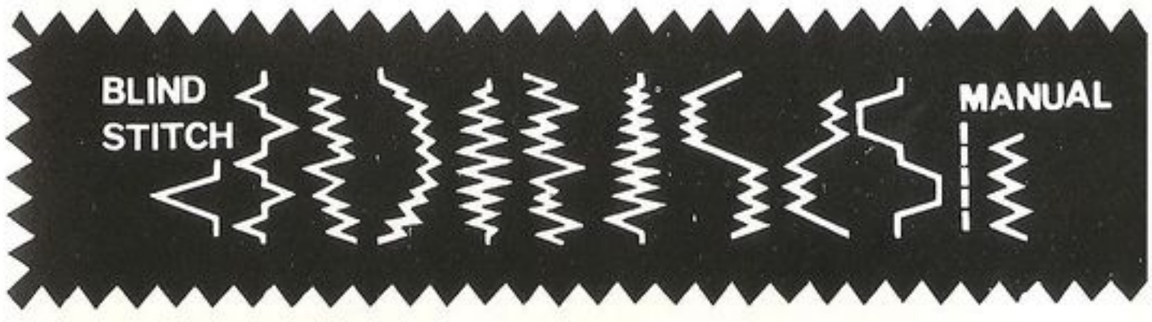


Fig. 26

MANUAL ZIGZAG SEWING

Be sure you have studied the previous pages in this instruction manual before going ahead with instruction on this page.

To make this satin stitch:

1. Set stitch regulator (see page 14) in area, as close to the left end as material makes possible. In other words, the stitch shall be close together as possible, the material feeding slowly..
2. Set fabric selector knob to "NORM" (see page 31).
3. Set zig-zag width lever for desired zig-zag width (see page 17).
4. Start sewing. This produces a satin stitch which is the basis for all straight running embroidery designs.

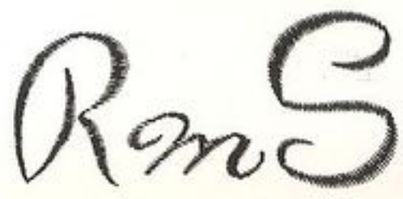
To make this checkerboard pattern, follow these instructions:

1. Set machine for satin stitch.
2. Set the left stop lock to 1 or 1.5 position and the right stop lock to 4 or 5 position.
3. Sew six or seven stitches. Move the zigzag width lever to the right and hold it there as you sew an equal number of stitches. Release width lever and repeat as often as your design calls for.

FREE HAND EMBROIDERY

The FOTOMATIC IV will permit you to make beautiful embroidery designs including monograms and pictures. A special embroidery foot is provided (see page 26). The technique is somewhat like having a stationary pen and moving the paper beneath it in drawing. Your dealer will be happy to demonstrate this technique and, with a little practice, you will be able to embroider as well as you can draw or trace with paper and pen.

MONOGRAM



EMBROIDERY

BUTTON SEWING

1. Set zig-zag width lever between 4 and 5 of zig-zag stitch scale (see page 17).
2. Attach button sewing foot and put the button between button sewing foot and fabric so that the holes of the button line up horizontally.
3. Set stitch length to zero.
4. Rotate the balance wheel by hand slowly toward you, so that the needle goes through one hole of button. Continue to turn balance wheel by hand to make sure the needle enters other hole of button properly and does not hit the button. If needle does not clear buttonhole, then adjust the throw of the needle by readjusting the zig-zag width lever until the needle throw is equal to the distance between the holes in the button.
5. Run machine at medium speed, making about 5-6 stitches.

Four-hole button with parallel stitching

1. Follow the same procedure as for sewing on "2-hole buttons" above.
2. After stitching first 2 holes of button, lift presser foot and move fabric and button a bit, so that the remaining 2 holes are now in position for the needle and repeat.

THE ADJUSTABLE ZIPPER FOOT

Use the adjustable zipper foot to sew zippers on to a garment. This zipper foot is adjustable so that it can be moved to the left or the right side. The illustration shows the zipper foot set at the left side of needle, so that the needle will enter the garment close to the edge of the material, but with no danger of fracturing the links of the zipper. Always be sure that your machine is set for straight stitch sewing.
To adjust the foot to stitch on the other side, loosen screw at back of foot and slide foot over to the right for stitching close to the zipper links on the right half of the fastener.

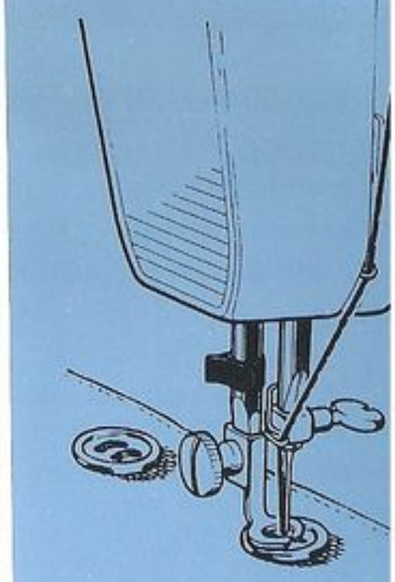


Fig. 27

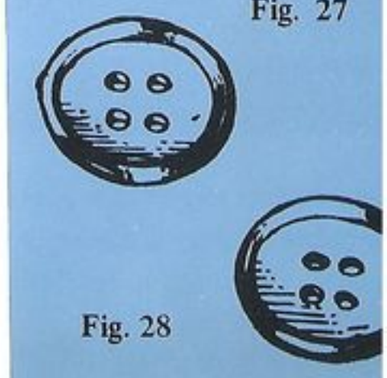


Fig. 28

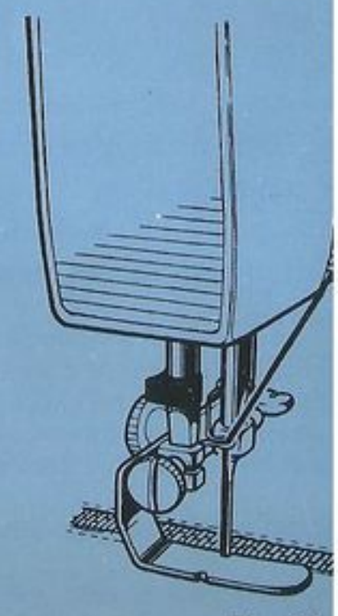


Fig. 29

DOUBLE NEEDLE SEWING

1. Replace single needle with double needle.
2. Use two spools of thread on the two spool pins on top of the machine.
3. Set buttonhole indicator to position.
4. Follow same principle of threading as for a single needle (see page 11), using the second hole and disc on the machine, and avoid crossing two threads. Start double needle sewing.

Note: **In sewing zigzag stitches with double needle, do not move zigzag width lever beyond DOUBLE NEEDLE ZONE. Use Lock (C) (Fig. 20) to limit width so that double needle will not break.**

OVERCASTING A RAW EDGE

1. Set machine to produce a satin stitch.
2. Regulate width of zig-zag stitch by moving zig-zag width lever to the width desired and lock zig-zag into position (see page 17).
3. Place raw edge of fabric under presser foot and start to sew.
4. Be sure that needle "bites" close to the raw edge of the fabric, alternately into the open space and into the fabric itself. A clean satin stitch edge will result by using the above instructions. You may however, wish to overcast with the stitches spaced farther aparts. In this case set stitch length at 15 stitches per inch (see page 14).

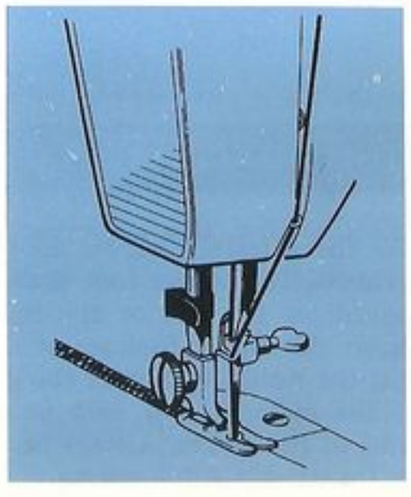


Fig. 30

APPLIQUE WORK-LACE EDGING

1. Regulate length of stitch and width of zig-zag as you wish.
2. Place lace edging on edge of fabric which is to be stitched, lower presser foot an sewing. Be sure that the zig-zag stitch sews into both fabric and lace.
3. If there is a raw edge of fabric underneath, cut it even and you will have a fi edge.

NARROW ROLLED EDGES

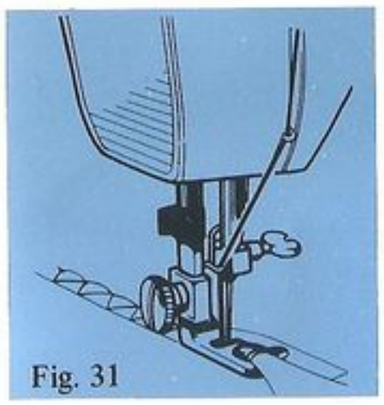


Fig. 31

Follow the same procedure as for narrow straight hem (as illustrated under), but set zig-zag widtl between 1 and 2 to produce a zig-zag stitch (se 17).

CUT-WORK APPLIQUE

1. Baste the piece of material with the design on to the article to which it is to be se
2. Place both under the presser foot and sew a fine satin stitch over the lines of the
3. When you are finished with the embroidery work, trim all surplus away with a scissors, cutting closely as possible to the design. Now the design is a part of the to which it is sewn.

NARROW STRAIGHT STITCH HEM

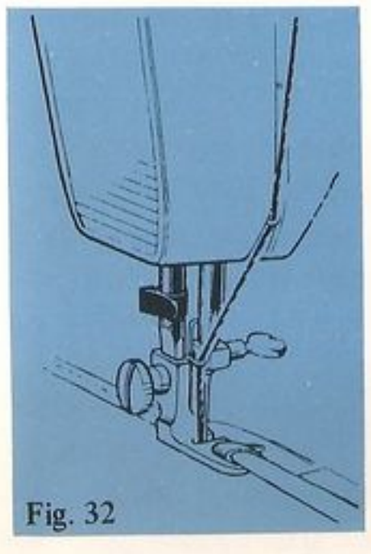


Fig. 32

1. Remove regular hinged foot and attach 1/8" hem the presser foot bar.
2. Regulate length of stitch to a medium size stit page 14).
3. Be sure zig-zag width lever is set to zero for straigh (see page 17).
4. Fold over edge of fabric about one-eighth of an in a length of about two inches, and insert this fold b hemmer into scroll (Fig. 32). The tongue of the h turns in the edge of the fabric and forms the hem.
5. Move fabric back and forward with care until hem itself in scroll.
6. Pull fabric toward you until the end of the fabric below the needle.
7. Lower hemmer by lowering presser foot lever an sewing. Guide and feed only enough materia hemmer foot to fill out scroll.

EMBROIDERY AND MONOGRAMMING WITH FABRIC SELECTOR

1. Use darning and embroidery foot.
2. Regulate width of zig-zag stitch by moving zig-zag width lever to position 2 or 3 (see page 17).
3. Put fabric with design to be embroidered into an embroidery hoop.
4. Place fabric and hoop under needle, bring embroidery foot down and start to sew as follows.
5. Hold hoop and needle thread with left hand, turn balance wheel slowly toward you with right hand and bring lower thread up through the fabric.
6. Holding both thread and hoop with the left hand, run the machine at a high speed. Guide the hoop slowly in time with the movement of the needle and the fabric will be embroidered. After a little practice you will become adept in following the design which you wish to embroider.

Note: Silk or mercerized thread is generally used for this type of work. Always be sure that the monogram or embroidery design is carefully drawn on the fabric. If the stitches are too far apart move the hoop more slowly. If the stitches pile up unevenly, move the hoop more quickly.

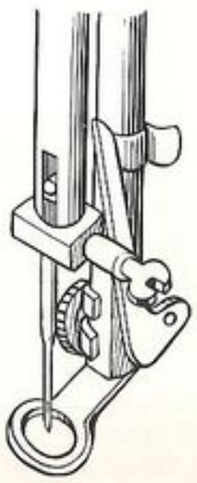


Fig. 33

THE RUFFLER

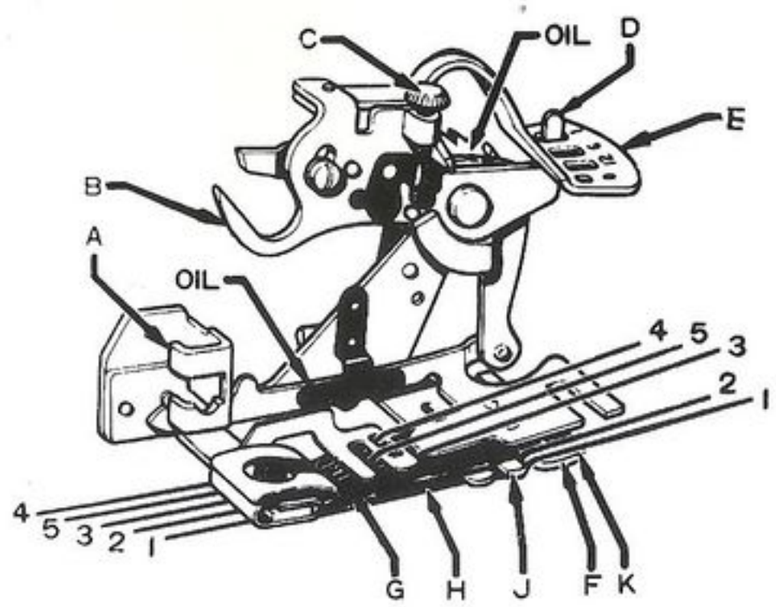


Fig. 34

A–FOOT which is attached to Presser Bar.
B–FORK ARM must be placed astride the needle clamp.
C–ADJUSTING SCREW. Holds fullness of gathers or plaits.
D–PROJECTION. Fits through slots in Adjusting Lever.
E–ADJUSTING LEVER. Used to set the Ruffler for gathers or plaits.
F–SEAM GUIDES. On Ruffler separator.
G–RUFFLING BLADE. The upper blue steel blade with teeth at end.
H–SEPARATOR. The lower blue steel blade which prevents feed blade contacting f machine.
J– LIP which separates seam guides.
K–SLIDING GUIDE can be adjusted for different width seams or headings.
Line 1–Is under the Ruffler and indicates the position for the garment to which ruffl be stitched giving 1/4 inche seam.
Line 2–Between the blue blades where the feed blade with gather or plait material 1/4 inch seam.
Line 3–The upper piece of material used when ruffle is enclosed between two pie material.
Line 4–Guide for piping strip.
Line 5–For edge stitching material to ruffle that is entered from right.

GATHERING A RUFFLE

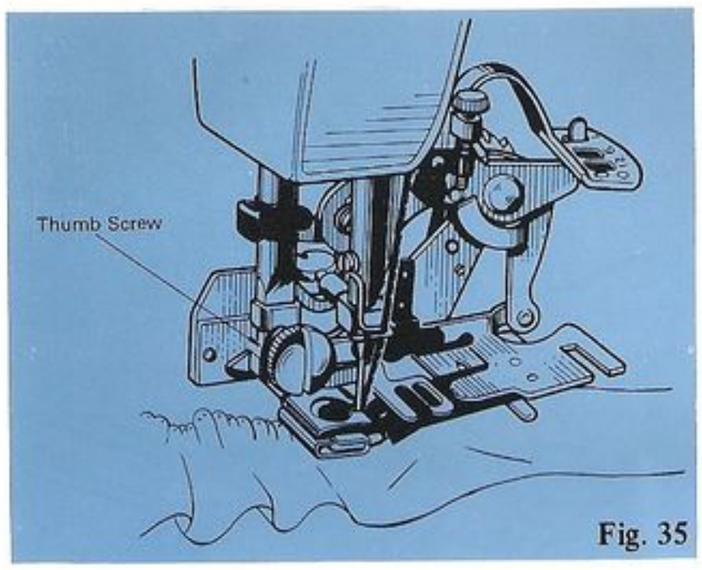


Fig. 35

The Ruffler will make ruffling and plating in uniform fullness, or with simple adjustments, can be made to vary fullness of ruffle and accomplish grouping of plaits or gathers without removing Ruffler from machine.
Remove presser foot and thumb screw from machine. Attach Ruffler Foot "A" in its place with Fork Arm "B" astride the needle clamp. When Ruffler is in position tighten thumb screw firmly. Turn balance wheel slowly to see if needle passes through the center of the hole in foot of Ruffler. Finger "D" should be in slot 1 for gathering.
Place material to be gathered between the blue blades of the Ruffler following line 2; push forward until material is under needle, lower presser bar and be ready to stitch.
To make a scant gather loosen Adjusting Screw "C" and set Pointer "F" at figure 1 or 2 on Dial "K". Tighten the Adjusting Screw "C" securely and test fullness of gathers.
By setting Pointer "F" at different numbers, and changing the length of machine stitch, a variation from a scant to a full ruffle will result.

RUFFLING

The widest pleat is obtained when Pointer "F" on Dial "K" is on number 8.
Spaces between pleats can be changed as follows.
Finger "D" in slot 1 produces a pleat every stitch.
Finger "D" in slot 6 produces a pleat every sixth stitch.
Finger "D" in slot 12 produces a pleat every twelfth stitch.
Finger "D" in slot with the star puts ruffler out of action and machine sews straight (this is used for spaced plaits).

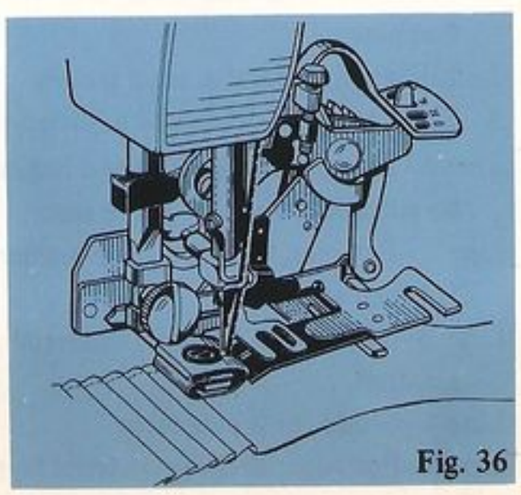


Fig. 36

NON-JAMMING FEATURE

The FOTOMATIC IV will not jam because of the special hook and race as illustrated below. If thread is improperly introduced into the race, the hook will or cut the thread and it will be swept out of the race, so that the machine will run freel
CLEANING: If the machine should feel stiff, just open the race by unsnapping the retaining posts. Remove the outer ring of the race assembly and the hook. Clean all traces of thread or lint from the "track" of the race and the hook, using a lead pencil and an old toothbrush. Replace the hook outer ring and snap retaining posts into place.
Your MORSE DEALER will be happy to demonstrate this operation to you so that your machine will be clean and in perfect sewing order at all times.

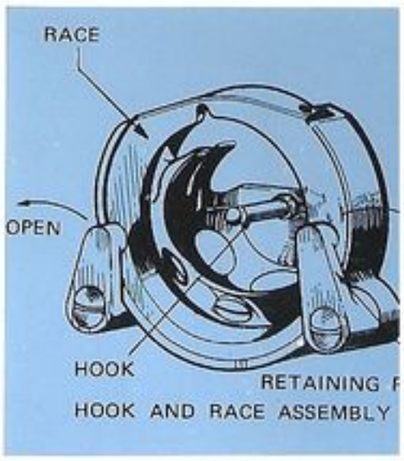
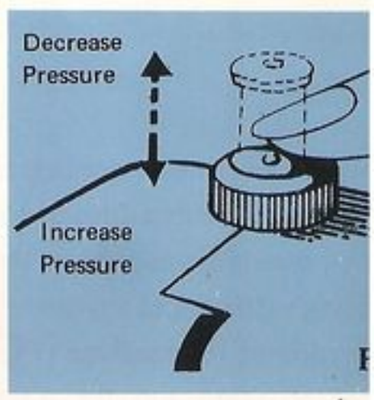


Fig. 37

AUTOMATIC DARNER



The MORSE FOTOMATIC IV is the zig-zag sewing machine with a built-in, automatic darner. This darner allows you to adjust the pressure on the pressser foot from strong to very light and serves, with the fabric selector, as an aid to perfect darning, embroidery, applique or other work requiring that you be able to control the direction of the stitch independently of the feed action.
For ordinary family sewing, it is seldom necessary to change the pressure on the m
In sewing fine silk or flimsy material, lighten the pressure by pressing release finger top of the machine. To increase the pressure, press cap down. The pressure should heavy enough to prevent the material from rising with the needle and to enable the move the work along evenly.

TO OIL THE MACHINE

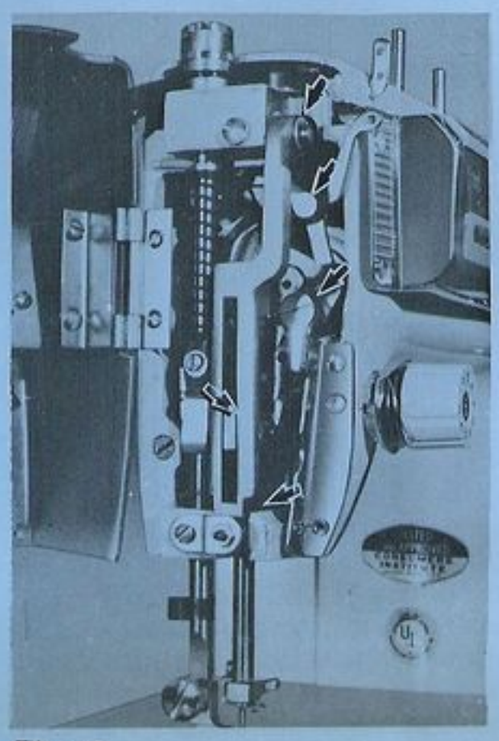


Fig. 40

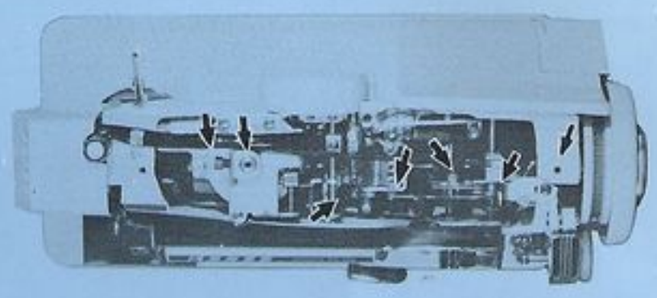


Fig. 39

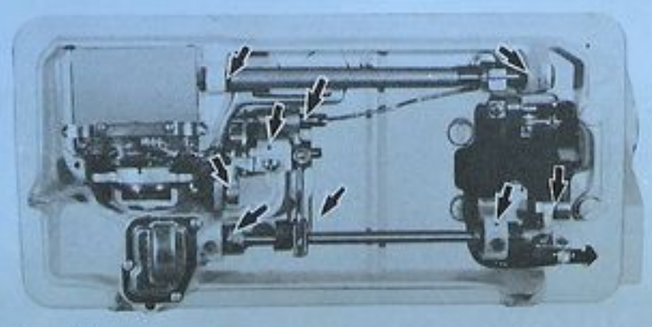


Fig. 41

A sewing machine never needs grease. All moving parts which come in contact with others, must be covered with a film of oil, and should not be allowed to become dry. Oil, when necessary, should be applied at the points indicated by arrows in (Fig. 39 and 40), a drop of oil being sufficient at any one place. Oil should be applied freely at all contact points on the underside of the machine (Fig. 41). When oiling, insert the oil nozzle well into the oil holes. After oiling, run the machine rapidly for a few minutes, so that the oil may penetrate into the bearings: For the proper care of your machine oil frequently. Neglecting to do this tends to shorten the life of the machine, and may cause trouble and annoyance. Take off top cover by removing two screws as shown and oil all moving inside parts.

NOTE: USE SEWING MACHINE OIL ONLY.

THE BUILT-IN LIGHT

Front Sew Light

1. The lamp housing is enclosed in the hinged face plate. Screw out bulb as shown in Fig. 42 and then insert the new bulb.
2. For replacement, use 10-C-7 or 7-C-7, or "night light" bulb available everywhere.
   Use switch on face plate to turn this light on and off.

Fig. 42

FABRIC SELECTOR

The feed can be regulated for various materials and types of sewing by the use of a selector knob. Their positions are:

NORM	For straight sewing with ordinary materials.
SILK	For fine materials such as silk, nylon or rayon faille.

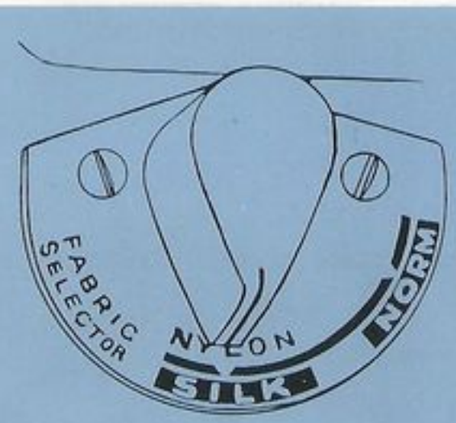


Fig. 43

OPERATING HINTS

SEE THAT THE PRESSER FOOT is securely clamped by the screw and snug against the presser bar so that the needle may pass through the opening in the foot without any interference.

SKIPPED STITCHES. May be caused by a bent or blunt needle, by incorrect setting of the needle, the wrong size needle, by a thread too heavy for the size of the needle.

BREAKING NEEDLES are usually due to pulling on the work, causing the needle to get out of line and strike the needle plate thus breaking or bending the needle. It may be due to presser foot or attachments not being securely fastened to presser bar. Be sure to use correct size needle and thread for material. See needle chart (Page 7).

BREAKING THE UPPER THREAD, May be caused by :

(1) Incorrect threading.
(2) Not bringing up under thread correctly.
(3) Upper tension too tight.
(4) Needle imperfect, or set incorrectly.
(5) Needle rubbing against attachments or presser foot.
(6) Needle eye too small for thread.
(7) Starting the machine at full speed.
(8) Starting without take-up lever at highest point.

BREAKING THE LOWER THREAD. May be caused by:

(1) Incorrect threading of bobbin case.
(2) Too tight a tension.
(3) Bobbin wound too full to revolve freely.
(4) Not bringing up under thread correctly.
(5) Hole in the needle plate rough caused by needle striking the plate.

UNEVEN STITCHES. May be caused by:

(1) Presser foot not resting evenly on material.
(2) Feed not high enough.
(3) Too short a stitch.
(4) Pulling the cloth.
(5) Too fine a needle with too coarse or poor a thread.

M E M O

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PRINTED IN JAPAN